

## **REMARKS**

The Office Action mailed January 19, 2006, has been reviewed. Claims 1, 6, 17, 22, 33, 38, and 71 have been amended. Claim 72 has been canceled. For the reasons set forth below, Applicants believe the claims pending in the application are now in condition for allowance.

### **Claim Rejections Under 35 U.S.C. § 112**

In the Office Action dated January 19, 2006, the claims 6, 22, and 38 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

Specifically, the Office Action states the claim language indicated the local area augmentation navigation system does not require any power or communication infrastructure and is thus contrary to the teachings of the disclosure or is insufficiently disclosed. Claims 6, 22, and 38 have been amended to overcome the rejection under 35 U.S.C. §112, first paragraph. That is, the word "external" has been added to claims 6, 22, and 38 for clarification that the local area augmentation navigation system does not require any external power or communication infrastructure. It is believed that the scope of claims 6, 22, and 38 is clear based upon the description in the specification, i.e. see paragraphs [0035], [0042] and [0061].

In light of the foregoing, it is Applicants' belief that the rejections under

35 U.S.C. §112 first paragraph have been overcome. Reconsideration and withdrawal of the rejection of claims 6, 22, and 38 is respectfully requested.

Claim Rejections Under 35 U.S.C. §103(a) over FAA-E-2938A

Claims 1-9, 12-25, 28-41, 44-48 and 71-72 were rejected under 35 U.S.C. § 103(a) as being unpatentable over FAA-E-2937A. As discussed above, claim 72 has been cancelled. Thus, the foregoing rejection is rendered moot for claim 72.

Independent claims, i.e. claims 1, 17, 33 and 71, have been amended to better define Applicants' inventive concept. Claims 1, 17, and 33 have been amended to specifically recite:

"...the security receiver receiving the correction message broadcast by the master station via a first communication link, wherein the evaluation computer receives the correction message output by the master station via a second communication link different from the first communication link..."

Claims 71 has been amended to specifically recite:

"...monitoring the broadcast between the master station of the local area augmentation system and the LAAS receiver for unauthorized broadcasts in the area having a similar character as the correction message broadcast by the master station using a security receiver and an evaluation computer; receiving the correction message output by the master station via a first communication link by the security receiver and a second communication link by the evaluation computer; and outputting an alert signal when the message received by the security receiver and evaluation computer does not match the correction message broadcast by the master station."

In support of the 35 U.S.C. §103(a) rejection as being unpatentable over

FAA-E-2937A, the Office Action states “the elements comprising monitoring of the broadcast as disclosed in Section 3.2.3 meet the scope of a security receiver and evaluation computer.” Specifically, the Office Action cites “a plurality of monitoring stations (AVS) for monitoring the broadcast of the correction message by receiving the broadcast transmission and for calculating/determining the integrity/accuracy thereof.”

In evaluating the FAA-E-2938A standard LAAS ground facility (LGF) equipment, the primary VHF data broadcast (VDB) electronic equipment includes a transmitter, monitor, and power amplifier housed in a primary equipment shelter sharing a common elliptical polarization (EPOL) antenna. The LGF has interfaces supporting up to three additional VDB subsystem (AVS). Each AVS subsystem is identical in hardware to the primary VDB subsystem.

The Office Action states the elements comprising monitoring of the broadcast as disclosed in Section 3.2.3 meet the scope of a security receiver and evaluation computer. From the FAA-E-2938A document, it is unclear how it was determined each of the AVS systems are monitoring stations that are monitoring the broadcast transmission and calculating the integrity/accuracy thereof if the AVS systems are considered additional and identical in hardware to the primary VDB subsystem.

Further, the inherency of an unauthorized broadcast being detectable by such AVS systems is not understood. As the Examiner is aware, for a feature

of an invention to be “inherent” in a reference, inherency requires the feature to be “necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” See MPEP §2131.01. If the Examiner knows of any specific teaching within the reference that illustrates the AVS subsystems performing operations such as “monitoring the broadcast of the correction message by receiving the broadcast transmission and calculating/determining the integrity/accuracy thereof” or inherency of such detectability, the Applicants’ attorney would appreciate the Examiner noting the location of such teaching within the reference as Applicants’ attorney was unable to locate any such teachings.

Furthermore, even if the AVS subsystem is determined to be a monitoring station, the FAA-E-2938A document does not disclose, teach, or suggest the use of a security receiver and an evaluation computer monitoring the broadcast of the correction message. Applicants provide a security receiver and an evaluation computer cooperating to monitor broadcasts in the area. The security receiver, via a first communication link, receives the correction message broadcast by the master station. The evaluation computer also receives the correction message of the master station via a second communication link different from the first communication link. The evaluation computer cooperates with the security receiver to determine if the correction message received by the security receiver via the first communication link and

the correction message received by the evaluation computer via the second communication link match.

Thus, in light of the foregoing, it is Applicants' position that claims 1-9, 12-25, 28-41, 44-48 and 71 are not obvious within the meaning of 35 U.S.C. § 103(a) as being unpatentable over FAA-E-2937A. Reconsideration and withdrawal of the rejection of claims 1-9, 12-25, 28-41, 44-48, and 71 is respectfully requested.

35 U.S.C. §103(a) rejection over Franke et al.  
in view of either Lamb or Wullschleger et al.

In the Office Action dated January 19, 2006, claims 1-9, 12-25, 28-41, 44-48 and 71-72 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Franke et al. (6,469,655) in view of either one of Lamb or Wullschleger et al. As discussed above, claim 72 has been cancelled. Thus, the foregoing rejection is rendered moot for claim 72.

The remaining independent claims, i.e. claims 1, 17, 33 and 71 have been amended to better define Applicants' inventive concept. As discussed above, Claims 1, 17, and 33 have been amended to specifically recite:

"...the security receiver receiving the correction message broadcast by the master station via a first communication link, wherein the evaluation computer receives the correction message output by the master station via a second communication link different from the first communication link..."

Claims 71 has been amended to specifically recite:

"...monitoring the broadcast between the master station of the local area augmentation system and the LAAS receiver for unauthorized broadcasts in the area having a similar character as the correction message broadcast by the master station using a security receiver and an evaluation computer; receiving the correction message output by the master station via a first communication link by the security receiver and a second communication link by the evaluation computer; and outputting an alert signal when the message received by the security receiver and evaluation computer does not match the correction message broadcast by the master station."

The Office Action states it would have been obvious to one having ordinary skill in the art to modify Franke et al. by incorporating LAAS technology for the ILS in view of the teachings of either one of Lamb or Wullschleger et al. in view of the move toward LAAS for CAT-I service.

As Examiner is aware, to establish obviousness, all the claim limitations must be taught or suggested by the prior art. A modification of Franke to incorporate LAAS technology for the ILS would still not produce all of the claim limitations.

Franke et al. monitors a plurality of navigational sources on the airport for purposes of advising of whether the broadcast signal from the antenna station is an adequate signal based on positioning and classification data. The signals received by the receiving stations are evaluated at the central evaluating unit which determines position and classification of the signal. Essentially, Franke et al. takes in every signal broadcast in the airport area, positions the signal, and classifies the signal for further evaluation on whether the signal is interfering with the ILS signal being transmitted. Franke et al. is

thus not a closed loop monitoring system evaluating correction messages broadcast by a master station. Unlike Franke et al., Applicants' navigation system includes a security receiver and an evaluation computer cooperating to monitor a broadcast of a correction message by a master station, to also monitor other broadcasts in the area for unauthorized broadcasts having a similar character as the correction message broadcast by the master station, and to output an alert signal upon detection of an unauthorized broadcast. The security receiver receives the correction message broadcast by the master station via a first communication link, and the evaluation computer receives the correction message output by the master station via a second communication link different from the first communication link.

Furthermore, modifying Franke et al. with the LAAS technology does not teach, suggest, or demonstrate a security receiver and an evaluation computer cooperating to monitor the broadcast of the correction message by the master station. Franke et al. is positioning every signal within the airport area and classifying every signal for further evaluation on whether each signal is "likely to disrupt the proper reception and evaluation of the wanted signal." Franke et al. does not teach, suggest, or demonstrate an evaluation computer determining that an unauthorized broadcaster exists in the manner specified in claims 1, 17, or 33, i.e. the security receiver receiving the correction message broadcast by the master station via a first communication link, and the

evaluation computer receiving the correction message output by the master station via a second communication link different from the first communication link. Additionally, Franke et al. does not teach, suggest, or demonstrate that an unauthorized broadcaster exists in the manner specified in claim 71, i.e., receiving the correction message output by the master station via a first communication link by the security receiver and a second communication link by the evaluation computer and outputting an alert signal when the message received by the security receiver and evaluation computer does not match the correction message broadcast by the master station.

While Lamb and Wulschleger et al. discuss LAAS systems, neither appear to meet the deficiencies described above of Franke et al. Therefore, Franke et al., alone or in combination with either Lamb and Wulschleger, does not teach or suggest Applicants' claims 1-9, 12-25, 28-41, 44-48 and 72.

In light of the foregoing, it is Applicants' position that claims 1-9, 12-25, 28-41, 44-48 and 71 are not obvious within the meaning of 35 U.S.C. §103. Therefore, reconsideration and withdraw of the rejection of claims 1-9, 12-25, 28-41, 44-48 and 71 is respectfully requested.



### **Conclusion**

In view of the above, Applicants respectfully submit that this application, as now amended, is in condition for allowance for the reasons stated above. Therefore, it is requested that the Examiner reconsider each and every rejection as applicable to the claims now pending in the application and issue a Notice of Allowance thereof.

This amendment is intended to be a complete response to the Office Action dated January 19, 2006. Should the Examiner have any questions regarding this Amendment, or the remarks contained herein, Applicants' attorney would welcome the opportunity to discuss such matters with the Examiner.

Respectfully submitted,



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